

CLAIMS

1. Creep-resistant iron-nickel alloy with low thermal expansion, containing (in % by weight) in addition to 0.008 to 0.12 % C, 0.05 to 0.30 % Mn and 0.05 to 0.30 % Si, also 0.2 to 0.9 % Mo and 0.1 to 0.3 % Cr and 0.03 to 0.15 % Nb and max. 0.5 % Co as well as 36.0 to 36.5 % Ni, the remainder being iron and impurities resulting from the production process, whereby the alloy has a thermal expansion coefficient $< 2.0 \times 10^{-6}/\text{K}$ within a temperature range from 20 to 100 °C.
2. Alloy according to claim 1 containing (in % by weight)
 - 0.08 to 0.11 % C
 - 0.15 to 0.25 % Cr
 - 0.10 to 0.20 % Mn
 - 0.10 to 0.15 % Si
 - 0.5 to 0.7 % Mo
 - 0.05 to 0.09 % Nb
 - max. 0.1 % Co
 - 36.0 to 36.5 % Nithe remainder being iron and impurities resulting from the production process, whereby the alloy has a thermal expansion coefficient $< 2.0 \times 10^{-6}/\text{K}$ within the temperature range from 20 to 100 °C.
3. Alloy according to claim 1 further containing (in % by weight)
 - max. 0.002 % S
 - max. 0.01 % Ti
 - max. 0.2 % Cu
 - max. 0.010 % P

max. 0.01 % Al

max. 0.003 % Mg

4. Alloy according to claim 2 whereby the alloy has a thermal expansion coefficient $< 1.6 \times 10^{-6}/K$ within the temperature range from 20 to 100 °C.
5. Shadow masks of screens and monitors made of the iron-nickel alloy of claim 1.
6. Frame parts, in particular vertical frame parts, of shadow masks made of the iron-nickel alloy of claim 1.
7. Passive components of thermal bi-metals made of the iron-nickel alloy of claim 1.
8. Components for the production, storage and transportation of liquefied gas made of the iron-nickel alloy of claim 1.
9. Components in the laser technology made of the iron-nickel alloy of claim 1.
10. Lead frames made of the iron-nickel alloy of claim 1.
11. Components for electron guns, in particular for television tubes, made of the iron-nickel alloy of claim 1.